

Dolly and Mullarkey, 1996

Data Set 17

Reference: Dolly, E.D., and J.C. Mullarkey, 1996, Hydrocarbon production from low contrast, low resistivity reservoirs, Rocky Mountain and Mid-Continent regions -- log examples of subtle plays: Rocky Mountain Association of Geologists, 290 p.

Authors' affiliation: Rocky Mountain Association of Geologists

Age: Pennsylvanian

Formation: Morrow Sandstone

Location: Nee Noshe Field, Las Animas Arch, Kiowa County, Colorado

Well: Colorado State # 1-20

Depth range: 4721-4775 feet

Depositional setting: "the Morrow sandstone is interpreted to be of point-bar origin."

Lithology: "The sandstone body is medium- to very coarse-grained at the base and fines upward to a very fine-grained sandstone with carbonaceous laminations at the top. The mineralogy of the sand is primarily quartz with traces of feldspathic material and up to 15% dolomite."

Alteration: "Kaolinite is the dominant clay mineral (15 to 30% of the total mineral framework), followed by chlorite (5 to 10%) with minor amounts of illite, smectite and mixed-layered clays (all less than 5%)."

Porosity and permeability variations: "Porosity and permeability increase with grain size downward from the top to the base of the sand."

Log response: "The probable cause of the low resistivity-low contrast electric log reading through the Morrow sand is the minor amounts of clay minerals (principally chlorite) and disseminated heavy minerals (pyrite) seen in SEM and thin section evaluation of the core."

Production: gas

Core measurement conditions: not stated.

Data entry: manual entry from table on page 69 of the referenced paper.